Ex. O

1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3   OAKLAND DIVISION

4   _____

5

     ELASTICSEARCH, INC., a   )

6   Delaware corporation,   )

     ELASTICSEARCH B.V., a   )

7   Dutch corporation,   )

)Case No.

8   Plaintiffs,   )4:19-cv-05553-YGR

)

9   vs.   )

)

10   FLORAGUNN GMBH, a German)

     corporation,   )

11   )

           Defendants.   )

12   )

13

14   ** HIGHLY CONFIDENTIAL **

15   ** UNDER PROTECTIVE ORDER **

16   ** ATTORNEY'S EYES ONLY **

17

18   REMOTE VIDEOTAPED DEPOSITION

19   OF

20   OWEN ASTRACHAN, Ph.D.

21   Friday, August 13, 2021

22   Durham, North Carolina

23

24

25   Reported by: B. Suzanne Hull, CSR No. 13495

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 1                         APPEARANCES

 2

 3

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18     The Videographer:    Cyril Suszckiewicz

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1	code and index.html code that was referred to in the	13:17:27
2	users.html section of your report?	13:17:33
3	A. I don't recall asking a question about when	13:17:35
4	did you use it, but based on the conversation, it was	13:17:38
5	my understanding that, in fact, yes. This testing	13:17:41
6	framework and third-party testing framework would	13:17:45
7	have been used during that time. I don't believe	13:17:49
8	that I asked that specific question, but that was my	13:17:52
9	understanding.	13:17:55
10	Q. Did you ever ask to speak to Hendrik Saly	13:17:56
11	about the code at issue in this matter?	13:18:01
12	A. I never asked to speak with Hendrik Saly,	13:18:05
13	no.	13:18:08
14	Q. Is it possible that speaking to Mr. Saly	13:18:09
15	would have impacted your opinions in this matter?	13:18:13
16	MR. KWUN: Objection. Calls for	13:18:16
17	speculation.	13:18:16
18	THE WITNESS: I think it is reasonable that	13:18:17
19	had I spoken with Mr. Saly, that could have had an	13:18:21
20	effect on my opinions, but I did not.	13:18:24
21	BY MR. EBERHART:	13:18:27
22	Q. Did you ever ask to speak to	13:18:27
23	Sergii Bondarenko?	13:18:29
24	A. I never asked to speak to Sergii Bondarenko,	13:18:30
25	no.	13:18:33

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1	Q. And you never, in fact, spoke to	13:18:34
2	Sergii Bondarenko; correct?	13:18:36
3	A. That's correct. I did not.	13:18:37
4	Q. Is it possible that speaking to	13:18:38
5	Sergii Bondarenko could have impacted your opinions	13:18:40
6	in this matter?	13:18:43
7	A. That's -- that's possible.	13:18:44
8	Q. Did you ever ask to speak to	13:18:50
9	Mikael Gustavsson?	13:18:53
10	A. I did not ask to speak to Mikael Gustavsson,	13:18:57
11	nor did I, in fact, speak to Mikael Gustavsson.	13:19:00
12	Q. Is it possible that speaking to	13:19:03
13	Mikael Gustavsson could have impacted your opinions	13:19:04
14	in this matter?	13:19:07
15	A. That's possible.	13:19:08
16	Q. Have you ever testified as an expert on	13:19:11
17	source code development where you did not have the	13:19:15
18	opportunity to speak to or have counsel depose the	13:19:17
19	developers of the code?	13:19:20
20	A. That is likely for certain the case	13:19:25
21	because -- I mean, I would have to go back and look	13:19:30
22	at all of the cases I have been part of. In the	13:19:33
23	recent cases that I have been a part of, I certainly	13:19:39
24	have not spoken to all of the developers that	13:19:42
25	contributed to the code at issue in those cases.	13:19:44

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1	Q. Have you spoken to any of the developers	13:19:47
2	that contributed code in those cases?	13:19:49
3	A. Recently, in -- in cases that I have been	13:19:51
4	part of, I have spoken to what might be termed the	13:19:56
5	lead developer, but there are often other developers	13:20:00
6	other than the lead developer.	13:20:04
7	Q. And here in this matter you were not	13:20:05
8	afforded the opportunity to speak to the lead	13:20:10
9	developer; correct?	13:20:13
10	A. I spoke with Jochen Kressin, and in many	13:20:14
11	ways I believe he is the lead developer of the code	13:20:18
12	in floragunn. And so I did speak with him.	13:20:21
13	Q. In fact, Hendrik Saly is the author of	13:20:24
14	fourteen of the nineteen code segments at issue,	13:20:27
15	isn't he?	13:20:31
16	A. As I understand it, in Exhibit 185	13:20:31
17	Hendrik Saly is identified as an author, yes. That's	13:20:34
18	correct.	13:20:37
19	Q. But it is still your testimony that	13:20:38
20	Mr. Kressin is the lead developer of Search Guard; is	13:20:39
21	that correct?	13:20:46
22	A. To -- to be clear, the lead developer is	13:20:47
23	often a managerial position, and I believe	13:20:50
24	Mr. Kressin has that role. In the cases to which	13:20:56
25	I referred -- you know, other cases, one of which is	13:21:00

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1	ongoing, the -- the lead developer isn't necessarily	13:21:03
2	the one who has committed the code, but it is the one	13:21:07
3	who has oversight responsibility for the development	13:21:10
4	of that code.	13:21:13
5	Q. You expressed the opinion that when viewed	13:21:16
6	through the eyes of a computer programmer, the total	13:21:19
7	concept and feel of Search Guard is not substantially	13:21:23
8	similar to the total concept and feel of X-Pack;	13:21:27
9	correct?	13:21:33
10	A. I would like to get a -- that -- that sounds	13:21:33
11	like a reference to a specific paragraph in my	13:21:35
12	report.	13:21:38
13	Can you give me that reference to that?	13:21:38
14	Q. One minute, please.	13:21:43
15	A. Yes. That's correct.	13:21:54
16	Q. Which versions of Search Guard did you	13:21:54
17	review to form that opinion?	13:21:57
18	A. The -- I looked at Search Guard as it exists	13:22:01
19	in the context of the accused code base.	13:22:06
20	Q. Which versions of Search Guard did you	13:22:09
21	review to form the opinion expressed in paragraph	13:22:12
22	twenty-two that the total concept and feel of	13:22:18
23	Search Guard is not substantially similar to the	13:22:21
24	total concept and feel of X-Pack?	13:22:25
25	A. I don't -- I can't give you any version	13:22:27

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1	conclusion.	13:30:08
2	THE WITNESS: Again, I'm trying to	13:30:12
3	understand the question.	13:30:14
4	Is there a code -- executable code from the	13:30:15
5	floragunn side that has been accused that is not	13:30:21
6	qualitatively important? That is the question?	13:30:25
7	BY MR. EBERHART:	13:30:28
8	Q. That enables a feature that is not	13:30:30
9	qualitatively important to Search Guard.	13:30:32
10	A. I don't believe I expressed an opinion about	13:30:35
11	that in my report, no.	13:30:38
12	Q. So you haven't analyzed as to any of the	13:30:40
13	functioning code whether it enables a feature that is	13:30:44
14	qualitatively important to Search Guard; correct?	13:30:50
15	A. I believe that is a correct restatement of	13:30:55
16	what I said.	13:30:58
17	Q. And at no time have you attempted to assess	13:31:00
18	whether features enabled by the accused code could	13:31:04
19	operate without that code; correct?	13:31:09
20	MR. KWUN: Objection. Vague.	13:31:16
21	THE WITNESS: I have not undertaken an	13:31:18
22	analysis of what features might be enabled or	13:31:22
23	disabled without that code; that is correct.	13:31:27
24	BY MR. EBERHART:	13:31:29
25	Q. And your report does not dispute that	13:31:41

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1	Elastic's binaries were widely distributed in the	13:31:43
2	time period in which floragunn allegedly decompiled	13:31:46
3	Elastic's filings; correct?	13:31:55
4	MR. KWUN: Objection. Vague and ambiguous.	13:31:56
5	THE WITNESS: I know that that phrase widely	13:31:58
6	distributed is something that Dr. Walker has in his	13:32:00
7	report. I don't believe in my report I address that.	13:32:03
8	BY MR. EBERHART:	13:32:06
9	Q. And if you didn't address it, you didn't	13:32:07
10	form an opinion on that topic; correct?	13:32:10
11	A. I certainly don't have an opinion in my	13:32:13
12	report about widely distributed.	13:32:16
13	Q. In fact, you were able to download an X-Pack	13:32:18
14	binder that was of interest to you for your report;	13:32:23
15	correct?	13:32:26
16	A. That is correct, I was.	13:32:27
17	Q. And you decompiled that binder; correct?	13:32:29
18	A. I decompiled parts of that binder; that is	13:32:33
19	correct.	13:32:36
20	Q. Did you have any difficulty decompiling that	13:32:36
21	binder?	13:32:39
22	A. No.	13:32:40
23	Using the IDE that I used, I did not have	13:32:42
24	any difficulty decompiling the .class files that	13:32:47
25	I downloaded.	13:32:50

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1   Q.   Was -- do you have any reason to believe   13:32:51

2   that it would have been difficult for a floragunn   13:32:53

3   developer to decompile the .class files that you   13:32:57

4   decompiled?   13:33:04

5   MR. KWUN: Objection.   Lacks foundation.   13:33:06

6   Assumes facts.   13:33:07

7   THE WITNESS: I -- I -- I think that I was   13:33:09

8   able to decompile these files.   I think that many   13:33:11

9   reasonable developers would have been able to do the   13:33:17

10   same thing I did.   And to the extent that a floragunn   13:33:19

11   developer is a reasonable developer, like anybody,   13:33:22

12   they would have been able to do that.   13:33:24

13   BY MR. EBERHART: 13:33:26

14   Q.   Did you ever do -- withdrawn.   13:33:27

15   Did you ever take any steps to determine   13:33:31

16   whether any developers at floragunn possessed any   13:33:34

17   tools for decompilation of JAVA object code?   13:33:39

18   A.   I did not talk to any floragunn developers,   13:33:44

19   other than to -- other than Jochen Kressin; so   13:33:49

20   I didn't undertake any steps to see what tools were   13:33:54

21   available to developers.   13:33:57

22   Q.   Did you ask Mr. Kressin whether any   13:33:58

23   developers, whether employed by or consultants to   13:34:02

24   floragunn, possessed any tools for decompilation of   13:34:07

25   JAVA object code?   13:34:11

                                                    Page 192

1	A. I did not have to -- ask Mr. Kressin such	13:34:14
2	question.	13:34:17
3	Q. Did you ever ask Mr. Kressin whether he	13:34:18
4	personally at any time possessed tools for	13:34:22
5	decompilation of JAVA object code?	13:34:27
6	A. I did not ask him that question, no.	13:34:29
7	Q. At any time did Mr. Kressin tell you whether	13:34:33
8	he ever had tools for the decompilation of JAVA	13:34:39
9	object code?	13:34:45
10	A. I don't believe he ever stated such a fact	13:34:45
11	in that specific way, no.	13:34:51
12	Q. Did he state such a fact in a different way?	13:34:53
13	A. I don't recall whether he indicated what IDs	13:35:01
14	or development environments he and/or developers	13:35:04
15	used. Many development environments have decompilers	13:35:09
16	built into them, as did mine; so he may have said,	13:35:13
17	oh, yeah. You know, my developers use this. I don't	13:35:17
18	recall that, but it is possible that he stated that.	13:35:19
19	If he had said, for example, we all use IntelliJ, and	13:35:22
20	maybe he said the Community edition, maybe he said	13:35:28
21	the Professional version. I don't recall that at	13:35:31
22	all, but it might have been that he said that, and	13:35:33
23	then I would have assumed that he had a decom- --	13:35:35
24	access to a decompiler. But he didn't state that	13:35:37
25	that I can recall.	13:35:40

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1   Q. Did Mr. Kressin ever deny -- withdrawn.   13:35:42

2   Did Mr. Kressin ever claim that he had never   13:35:46

3   decompiled Elastic JAVA object code?   13:35:50

4   A. Mr. Kressin never said he had or had not   13:35:55

5   decompiled JAVA code in the conversations I had with   13:36:01

6   him.   13:36:06

7   Q. When did you first obtain a decompiler that   13:36:06

8   could decompile JAVA object code?   13:36:18

9   MR. KWUN: Objection. Calls for   13:36:21

10   speculation.   13:36:22

11   THE WITNESS: I have been using decompilers   13:36:24

12   for, you know, ten or twenty years; so I'm not sure   13:36:29

13   if you are asking -- I did not procure a decompiler   13:36:33

14   as part of the case here. I used the IntelliJ   13:36:37

15   environment that I use in the courses that I teach,   13:36:41

16   and I have had that around for a long time.   13:36:45

17   BY MR. EBERHART: 13:36:47

18   Q. So in your experience, decompilers for JAVA   13:36:48

19   object code have been publicly available for at least   13:36:53

20   the last ten years; correct?   13:36:56

21   A. I think that is a reasonable statement, yes.   13:36:59

22   Q. And are JAVA decompilers -- withdrawn.   13:37:01

23   Are any of the JAVA decompilers that have   13:37:08

24   been available in the last ten years free and open   13:37:13

25   source software?   13:37:17

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1	MR. KWUN: Objection. Calls for	13:37:20
2	speculation.	13:37:21
3	THE WITNESS: I cannot tell you the	13:37:22
4	licensing that I used on the decompilers in terms of,	13:37:25
5	you know, free as in beer rather than speech. They	13:37:28
6	are definitely free as in beer. Whether they are	13:37:32
7	free as in speech using an open source or GNU-based	13:37:35
8	license, I don't know that. But I -- that is likely,	13:37:41
9	but I don't know.	13:37:42
10	BY MR. EBERHART:	13:37:43
11	Q. And to translate from computer science open	13:37:43
12	source speak, when you say they are definitely free	13:37:49
13	as in beer, when you mean is that there are	13:37:51
14	decompilers for JAVA object code that can be obtained	13:37:55
15	without payment of money; correct?	13:38:00
16	A. Yes.	13:38:01
17	I will -- let me try to come back out of my	13:38:02
18	little nerdy vernacular and say, yes. There are	13:38:06
19	decompilers that are available without cost to	13:38:09
20	developers.	13:38:12
21	Mr. Leigh is finding that very amusing, as	13:38:16
22	a sidebar.	13:38:21
23	MR. EBERHART: Let's go ahead and mark	13:38:26
24	Exhibit 379.	13:38:36
25	///	

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```
 1   STATE OF CALIFORNIA )

                         ) ss.

 2   COUNTY OF KERN      )

 3

 4

 5          I, B. Suzanne Hull, a Certified Shorthand

 6   Reporter in the State of California, holding

 7   Certificate Number 13495, do hereby certify that

 8   OWEN ASTRACHAN, Ph.D., the witness named in the

 9   foregoing deposition, was by me duly sworn; that said

10   deposition, was taken Friday, August 13, 2021, at the

11   time and place set forth on the first page hereof.

12          That upon the taking of the deposition, the

13   words of the witness were written down by me in

14   stenotypy and thereafter transcribed by computer

15   under my supervision; that the foregoing is a true

16   and correct transcript of the testimony given by the

17   witness.

18          Pursuant to Federal Rule 30(e), transcript

19   review was requested.

20          I further certify that I am neither counsel

21   for nor in any way related to any party to said

22   action, nor in any way interested in the result or

23   outcome thereof.

24   ///

25   ///
```
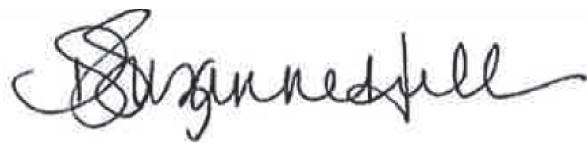
1   Dated this 26th day of August, 2021, at

2   Bakersfield, California.

3

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6   B. Suzanne Hull, CSR No. 13495

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